[Geochemical Analysis & Lab]

EXPERIMENT 4: Water Sample Collection

**Preparation**:

* Meters-pH, conductivity, ORP (calibrated)
* Bottles-500mL, 250mL (acid soaked)
* Filter, filter membrane (0.45 m), hand vacuum pump
* PE Beakers(two 500ml), washing bottles, forceps
* Water sampler (bailer, scoop, or grab sampler)
* Tissues, deionized water (DIW), c-HNO3, micropipette (0.1 mL)

**Procedures:**

1. Rinse the sampling apparatus with sampling water 3-4 times.
2. Rinse PE beakers and filtering funnel with the sampling water 3-4 times.
3. Grab the sample with the sampler and decant it to the PE beakers.
4. Rinse the electrodes and cells with the sampling water 3-4 times and then immerse them in the water of one of the PE beakers.
5. Wait until the reading becomes stabilized. After the stabilization, record the measured values on the” water quality log”.
6. After the measurement, rinse the probes thoroughly with DIW and put the protection cover back.
7. While measuring the water qualities of the sample, fill the filtering funnel with water sample and start filtering with a 0.45 m membrane.
8. Decant a few mL of the filtrate into 500mL and 250 mL PE sampling bottles and thoroughly rinse out the inside of the bottles. Repeat this step 3-4 times
9. Fill the sampling bottles with the filtrates. Give top of the bottles considerable empty spaces to allow thermal expansion
10. Add about 0.2mL HNO3 to the filtered water.
11. Close all the caps and mark the sampling bottles.
12. Keep the filter membrane with filter cake for later use.
13. Rinse all the filter apparatuses and beakers thoroughly with DIW 3-4 times for the next filtering.

**Notes:**